

I CLAIM:

1. A method of producing a pressurized stream of substantially inert gas, the method comprising:

5 (i) collecting at least a portion of the exhaust gases from an internal combustion engine;

(ii) directing said collected exhaust gases into the intake of a compressor, said compressor compressing said exhaust gases such that said exhaust gases exit said compressor at a pressure that is above atmospheric pressure; and,

10 (iii) re-circulating a portion of said compressed exhaust gases back into said intake of said compressor, said re-circulated portion of said compressed exhaust gases being of a sufficient volume to maintain the pressure within said compressor intake above atmospheric pressure to thereby prevent atmospheric gases from being drawn into said intake of said
15 compressor and into said stream of substantially inert gas.

2. The method as claimed in claim 1 wherein said compressor is driven by an electric or hydraulic motor and said exhaust gases are collected from one or more remote internal combustion engines.

20

3. The method as claimed in claim 1 wherein said internal combustion engine drives said compressor.
- 5 4. The method as claimed in claim 3 including the step of controlling the volume of re-circulated compressed exhaust gases delivered to said compressor intake to increase the volumetric throughput of said compressor and to increase the load on said internal combustion engine to thereby generate a volume of exhaust gas from said engine that substantially matches the input requirements of said compressor.
- 10
5. The method as claimed in claim 1 including the further step of utilizing one or more valves situated within a re-circulation conduit that delivers said re-circulated compressed exhaust gases to said compressor intake to control the volume of said re-circulated compressed exhaust gas delivered to said compressor intake.
- 15
6. The method as claimed in claim 1 including monitoring the gas pressure within said compressor intake and adjusting the volumetric flow of said re-circulated compressed exhaust gases delivered to said compressor intake in response to fluctuations in the pressure within said compressor intake so as to maintain the
- 20

pressure within said compressor intake above atmospheric pressure and within pre-determined levels.

5 7. The method as claimed in claim 1 including the further step of collecting the exhaust gases from a plurality of internal combustion engines and directing said exhaust gases into said intake of said compressor.

10 8. A method of producing a pressurized stream of substantially inert gas and to assist in maintaining the purity of said stream of substantially inert gas, the method comprising:

- (i) directing a stream of substantially inert gas into the intake of a compressor, said compressor compressing said gas such that said gas exits said compressor at a pressure that is above atmospheric pressure; and,
- 15 (iii) re-circulating a portion of said compressed gas exiting said compressor back into said intake of said compressor to maintain the pressure within said compressor intake above atmospheric pressure and to thereby help maintain the purity of said substantially inert gas by preventing atmospheric gases from being drawn into said intake of said compressor
- 20 and into said stream of substantially inert gas.

9. The method as claimed in claim 8 wherein said stream of substantially inert gas is the exhaust from one or more internal combustion engines.
10. The method as claimed in claim 8 wherein said stream of substantially inert gas is the exhaust from an internal combustion engine that is used to drive said compressor.
11. The method as claimed in claim 8 including the further step of utilizing one or more valves to control the volume of said re-circulated compressed gas delivered to said compressor intake.
12. The method as claimed in claim 8 including monitoring the gas pressure within said compressor intake and adjusting the volumetric flow of said re-circulated compressed gas delivered to said compressor intake in response to fluctuations in the pressure within said compressor intake so as to maintain the pressure within said compressor intake above atmospheric pressure and within pre-determined levels.